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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,203	09/14/2000	Alnoor M. Shivji	005100.P008	1520
2292	7590	12/31/2003	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			MOORE, IAN N	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 12/31/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,203

Applicant(s)

SHIVJI ET AL.

Examiner

Ian N Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3-5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figures 1(a), 1(b), and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 8-12, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Read (U.S. 5,436,890).

Regarding Claims 1 and 9, Read'890 discloses an apparatus and method comprising:

means for receiving network data in a first format (see Fig. 1, receiving a data in DS-1 signal format at Wideband unit 15, receiving a data DS-1 and DS-3 signal formats at Narrowband unit 17, or receiving a data ATM signal format at Broadband unit; see col. 3, line 24-39, see col. 5, line 39-66);

means for converting the data to a synchronous optical network (SONET) format (see Fig. 2, TSP (Tributary Signal Processor) units 38 at wideband subsystem 16; and also see Fig. 10-11, TSP units 38; see col. 11, line 36 to col. 12, line 34; note that each TSP unit performs

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mapping/converting a data between asynchronous signals format (i.e. DS-3 and DS-1 format) and SONET format (i.e. STS1 and VT1.5 format). TSP unit maps the DS-1 signal format into VT1.5 and DS-3 signal format into STS1P/STS-1 format.);

means for performing switching functions on the SONET formatted data (see Fig. 2, Broadband Matrix 28; also see Fig. 9, a detailed figure of broadband matrix, which is a cross connect matrix; see col. 5, line 34-37; see col. 11, line 20-34; note that broadband matrix switches/cross connects between STS1P/STS-1 formatted data from narrowband and wideband subsystems/units (i.e. low speed units) to broadband subsystem/unit (i.e. high speed units).) and

means for converting the SONET formatted data to a second format (see Fig.2, OC-3, OC-12 optical formatted data at High Speed optical (HSO units 24) in Broadband subsystem 14; also see Fig. 6, a detailed figure of High Speed Optical unit OC-N 24; see col. 13, line 26 to col. 14, line 14; note that each cross-connected STS1P/STS-1 electrical signals are converted into optical signals at Optical Terminator (i.e. OT 80 in Fig. 6) then transmitted toward the high speed SONET network side.)

Regarding Claims 2 and 10, Read'890 discloses performing switching functions on the SONET formatted data comprises means for performing time switching and space switching (see Fig. 9, a cross-connect matrix within the broadband subsystem which utilizes the three-stage non-blocking time and space switching mechanism which switches/cross-connects STS1P/STS-1 format signals to/from narrowband/wideband units from/to broadband units; also see col. 5, line 34-37, and col. 11, line 20-34).

Regarding Claims 3 and 11, Read'890 discloses transmitting the SONET formatted data as one or more serial data signals (see Fig 6, each OT 80 (Optical Terminator) unit multiplexes STS1P/STS-1 signals into an STS-3 signal; see col. 14, line 8-12 and also col. 9, line 6-29; note that there are plurality of OT in the high speed unit, and each OT multiplexes a parallel STS1 data signals into a serial STS-3 data signal (i.e. transmitting more than one serial STS-3 data signal). Thus, each high-speed unit transmits one or more serial STS-3 signals.)

Regarding Claims 4 and 12, Read'890 discloses one or more serial data signals is transmitted as a differential pair (see Fig 6, OT 80 (Optical Terminator) units and Groomers A and B 28; see col. 8, line 59 to col. 9, line 22; note that there are plurality of OT in the high speed unit and both groomer A and B are connected to each OT unit. Thus, each serial STS-3 signal is transmitted from each OT unit. Since the groomers are monitoring signal degradation on SONET channel of each OT unit in order to perform APS switching, it is clear that one OT unit carries a working/east-direction signal path and the other OT unit carries a protecting/west-direction signal path (i.e. a different pair of one or more serial data signals). Thus, each OT unit transmits an STS-3 signal (i.e. OC-3 in optical format) on a different pair: one being working/east-direction path and the other being protection/west-direction path.)

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Regarding claims 8 and 16, Read'890 discloses the SONET formatted data is communicated according to one of STS-1, STS-3, STS-12, STS-48 and STS-192 protocols (see col. 14, line 7-11; OT unit multiplexes three STS-1 signals into one STS-3 signal. Thus, it is clear that the SONET formatted data is communicated with STS-1 and STS-3 protocols/formats.)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5-7 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Read'890 in view of Elliot (U.S. 6,587,470).

Regarding claims 5 and 13, Read'890 discloses the data in the second format as described above in Claim 1 and 9 above.

Read'890 does not explicitly disclose the data in the second format comprises an aggregation of multiple data signals in the first format.

However, the above-mentioned claimed limitations are taught by Elliot'470. In particular, Elliot'470 teaches the data in the second format (see Fig. 2, high speed connections/sub-systems 200 data format (i.e. SONET OC-N format)) comprises an aggregation of multiple data signals in the first format (see Fig. 2, Low Speed

connections/sub-systems data format is the first format; see col. 3, line 1-12 and col. 6, line 7 to col. 7, line 24; note that a traffic signals (i.e. multiple data signals from both high speed cards and low speed cards) are aggregated via the data plane into an aggregated traffic signal. The aggregated traffic signal can be used to fill any signals such as DS-3, STS-1, or others (i.e. first format), which forms a part of a SONET channel. The cross-connect can insert the aggregated signal into a higher-level SONET signal (i.e. into the second format).)

In view of this, having the system of Read'890 and then given the teaching of Elliot'470, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Read'890, by providing a mechanism to form an aggregated signal format from composite multiple low/high speed signals format via a data plane, as taught by Elliot'470. The motivation to combine is to obtain the advantages/benefits taught by Elliot'470 since Elliot'470 states at col. 3, line 9-13 that such modification would make it possible for the cost effective use of the equipment and alleviates the need for a customer to lease an expensive high speed optical signal for a limited amount of data traffic.

Regarding claims 6 and 14, Read'890 discloses the network data is received by a first card (see Fig. 1, Wideband Unit 15 or Narrow Band Unit 17) in an electronic system (see Fig. 1, An integrated multi-rate cross-connect system 10), the first card coupled to a first network (see Fig. 1, Wideband network which connects with Wideband unit via DS-1 signal (or) a narrowband network which connects with narrow band unit via DS-1/DS-3 signal), and wherein a cross connect card (see Fig. 1, Broadband cross-connect matrix 14) in the electronic system performs the switching, and further wherein a second card (see Fig. 1,

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Broadband unit 13) in the electronic system coupled to a second network (see Fig. 1, a broadband SONET network which connects with broadband unit via OC-N/STS-N/STM-N) transmits the data in the second format. Also, see col. 3, line 24-67.

Regarding claims 7 and 15, Read'890 discloses the first card, the cross-connect card and the second card within the electronic system as described above in Claim 6 and 14 above.

Read'890 does not explicitly disclose the first card, the cross-connect card and the second card are interconnected by a backplane within the electronic system.

However, the above-mentioned claimed limitations are taught by Elliot'470. In particular, Elliot'470 teaches the first card (see Fig. 4A, low speed, LS 420 cards), the cross-connect card (see Fig. 4A, cross-connect XC 1 or 2 cards) and the second card (see Fig. 4A, high-speed, HS 400 cards) are interconnected by a backplane (see Fig. 4B, Backplane 800) within the electronic system (see Fig. 4A, all cards are populated in the same chassis; see col. 3, line 12-21 and col. 7, line 51-67; note that plurality of interface cards and cross-connect units are connected to a backplane within a chassis.)

In view of this, having the system of Read'890 and then given the teaching of Elliot'470, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Read'890, by providing a backplane which connects between interface units and cross-connects units, as taught by Elliot'470. The motivation to combine is to obtain the advantages/benefits taught by Elliot'470 since Elliot'470 states at col. 3, line 22-29 that such modification would make it possible for any

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interface card can be located in any interface card slot and signals from a card can be cross-connected with any other signal including a signal from that card itself.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 703-605-1531. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-305-9509.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Ian N Moore
Examiner
Art Unit 2661

INM
12/16/03


RICKY NGO
PRIMARY EXAMINER